

FINAL REPORT

ENVIRONMENTAL SURVEYS OF POTENTIAL BORROW AREAS ON THE CENTRAL EAST FLORIDA SHELF AND THE ENVIRONMENTAL IMPLICATIONS OF SAND REMOVAL FOR COASTAL AND BEACH RESTORATION

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Dr. Richard M. Hammer of Continental Shelf Associates, Inc. (CSA) served as Project Manager and Biological Component Manager; authored Sections 7.5.1 (Effects of Offshore Dredging on Benthic Biota) and 7.5.2 (Recolonization Periods and Success); and co-authored Sections 1.0 (Introduction) and 8.0 (Conclusions) and was Co-Editor of the report with Dr. Mark R. Byrnes of Applied Coastal Research and Engineering, Inc. (Applied Coastal). Dr. Byrnes also served as the Physical Component Manager and co-authored with Ms. Jessica L. Baker Sections 2.1 (Offshore Sedimentary Environment), 3.0 (Regional Geomorphic Change), 7.1 (Potential Sand Borrow Sites), and 7.4.1 (Historical Sediment Transport Patterns).

Other CSA personnel who contributed to the project included Mr. David B. Snyder, who served as Chief Scientist for the soft bottom field surveys and northern area hard bottom survey; authored the hard bottom and fishes sections; and incorporated sections from other authors concerning infauna, soft-bottom epifauna, and discussion into the remainder of Section 6.0 (Biological Field Surveys) that he authored. Dr. Luis M. Lagera, Jr. was responsible for the spatial data files and exclusionary mapping. Dr. Alan D. Hart led the sampling design and statistical analyses for the biological data. Mr. Stephen T. Viada wrote the sections on sea turtles and marine mammals, and Dr. Neal W. Phillips reviewed those sections. Mr. Frank R. Johnson served as Operations Manager for the soft bottom field surveys. Mr. Paul S. Fitzgerald was Chief Scientist for the southern area hard bottom survey. Mr. Terry W. Stevens served as Operations Manager for the hard bottom surveys. Mr. Frederick B. Ayer, III and Mr. Lynwood R. Powell, Jr. directed operations for the field surveys. Ms. Karen Stokesbury assisted in literature and data collection. Ms. Melody B. Powell provided editorial assistance. Ms. Deborah Raffel supervised CSA support staff during production of the report.

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ABBREVIATIONS

ADCP	Acoustic Doppler Current Profiler
AFB	Air Force Base
ASTM	American Society for Testing and Materials
BVA	Barry A. Vittor & Associates, Inc.
CAN1	First Canonical Variate
CAN2	Second Canonical Variate
CCCL	Coastal Construction Control Line
C-CORE	Centre for Cold Ocean Resources Engineering
CDN	Coastal Data Network
CFR	Code of Federal Regulations
CSA	Continental Shelf Associates, Inc.
CTD	conductivity, temperature, and depth
DGPS	differential global positioning system
DNR	Department of Natural Resources
DOMES	Deep Ocean Mining Environmental Study
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAU	Florida Atlantic University
FDEP	Florida Department of Environmental Protection
FGS	Florida Geological Survey
FKNMS	Florida Keys National Marine Sanctuary
FMP	Fishery Management Plan
FMRI	Florida Marine Research Institute
HAPC	Habitat Area of Particular Concern
ICONS	Inner Continental Shelf Sediment and Structure
LADS	Laser Assisted Depth Sounding
LPIL	lowest practical identification level
mcm	million cubic meters
mcy	million cubic yards
MESA	Marine EcoSystems Analysis
MLW	mean low water
MMS	Minerals Management Service
NAD	North American Datum
NAVD	North American Vertical Datum
NDBC	National Data Buoy Center
NEPA	National Environmental Policy Act
NGDC	National Geophysical Data Center
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
OBCS	Office of Beaches and Coastal Systems
OCS	Outer Continental Shelf
ODMDS	Ocean Dredged Material Disposal Site
ppt	parts per thousand
REF/DIF-S	REFraction/ DIFfraction model
REMOTS™ System	Remote Ecological Monitoring of the Seafloor
RMS	Root-Mean-Square
SAB	South Atlantic Bight
SAFMC	South Atlantic Fishery Management Council
SCEMAD	Strategic Cumulative Effects of Marine Aggregates Dredging

List of Abbreviations (Continued)

SEAMAP-SA	Southeast Area Monitoring and Assessment Program-South Atlantic
STWAVE	STeady-state spectral WAVE model
SWAN	Simulation of WAVes Nearshore
TN DOER	Dredging Operations and Environmental Research Technical Notes
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USC&GS	U.S. Coast and Geodetic Survey
USDOI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
UTM	Universal Transverse Mercator
WES	Waterways Experiment Station
WIS	Wave Information Study

